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ABSTRACT

This booklet, the third in a series of four volumes on the Designing a Curriculum (Dacum) process, is intended to assist Dacum workshop participants, program developers, and others in using skill profile charts in order to formulate objectives for competency-based vocational and technical training programs. Examined in the first two sections are procedures for analyzing skill profiles and for using them to set objectives. The next section deals with the array of terms related to the word "objectives" in education and training literature and their relevance to the specific statements of learning outcomes that are generated through the analysis of a skill profile. Concluding the booklet are suggestions for further reading. (MN)

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Please read the first booklet in this series, **An Introduction to Dacum,** *for a general description of the Dacum system.*

Preface

This four-part series explains Dacum, an acronym for Designing a Curriculum. Dacum is a systematic method for developing career, technical, and vocational training programs. Modified versions of the Dacum model are used in a number of provinces across Canada by educational institutions, government agencies, and business and industry. In British Columbia, Dacum is used by the Research and Curriculum Development Branch of the Ministry of Education to develop curricula at the post-secondary level.

The four booklets in this series provide a detailed description of the major steps involved in the Dacum process. The booklets are:

1. **Introduction to Dacum**
2. **The Dacum Workshop**
3. **From Skill Profile to Objectives**
4. **From Objectives to Instruction**

The materials are designed for workshop participants, program developers and others in the training field.

This booklet, **From Skill Profile to Objectives,** describes how a Dacum chart is used in program planning and how objectives are derived from it. The booklet provides a general understanding of how objectives are written, what they represent, and why they are so important to the design of a training program.

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Introduction

A unique feature of the Dacum system is the skill profile chart, which clearly describes what the requirements are for a particular job or occupational area. These skills represent real needs, because they have been identified and agreed upon by practitioners themselves. The chart then serves as a useful reference guide throughout the program development process. But how are these skills translated into a training program? The answer can be found in the second step of the Dacum process — analyzing the chart to develop appropriate objectives for training.

Analyzing the Skill Profile

Because the Dacum chart shows an entire range of skills for an occupational area, it is sometimes mistakenly assumed that all these skills will be learned in a formal instructional program. The skill profile is only a tool for determining training needs and for guiding program planning. Depending on the type of training required and various constraints such as time and cost, only certain skills will be chosen. Decisions about which skills should be included in a program are based upon answers to the following key questions:

1. Is this skill at the basic, job-entry level, or is it better learned on the job or after a period of work experience?
2. Is this skill absolutely critical for successful performance on the job or is it a "nice to know" skill?
3. What equipment, materials, facilities, and human resources are required to provide appropriate training experiences for the acquisition and practice of this skill? If these resources are not presently available, is it feasible or possible to develop them?

Once the skills have been selected for inclusion in a program, they are subjected to further analysis and used to generate a set of *objectives.*

Setting Objectives

Objectives define the desired outcomes of a training program. For instructors and learners, they identify exactly what is expected as a result of the instructional process. Administrators can use objectives for evaluation to determine if a program is in fact meeting the needs of the community or organization.

It is important to recognize that objectives written for staff training within business and industry may differ somewhat in scope and degree of detail from those written for public training institutions. While a private organization may concentrate on training its employees for specific jobs, a public institution must, by its very nature, provide training to meet more general needs. The Dacum system may be applied equally successfully to both types of training.

One further note may help clarify this distinction between general and specific training programs. Objectives written for staff training define expected employee performance on the job. When used in the context of a public training program, objectives define what the learner will be able to do as a result of training. In many cases programs in public institutions are designed for pre-employment training, so the level of expectation for learner performance will be somewhat less exacting than for people who have some job experience.

All objectives used in training are intended to convey essentially the same type of information:

1. What the learner/trainee will do (the skill to be performed).
2. The specific conditions (or "givens") under which the skill will be performed.
3. The criteria or standards of performance which must be achieved in order to demonstrate competence in the skill.

The skill profile chart provides the basic data for describing what the learner would be expected to do on the job. The conditions and criteria for performance, however, must be decided on the basis of what it is realistic to expect learners to accomplish in a training situation.

For example, one of the skills on the chart for medical office assistants is to Manage Medical Service Plan Accounts. For an employer such *conditions* as: "in a busy, single or multi-practice office," "with little or no supervision" and "on a daily (weekly/monthly) basis" might apply. Appropriate *criteria* for performance might include such things as: "billings sent out on time" and "no more than two rejected claims per month."

An objective written by an employer to define his expectations for a Medical Office Assistant might be as follows:

> A Medical Office Assistant, working in a People Care Clinic, will manage all Medical Service Plan Accounts without supervision. Billings must be sent out once a week. No more than 2 rejected claims per month will be allowed.

The conditions and criteria described in the preceding example may be appropriate to a real-life job situation. However, they are clearly not feasible in a formal instructional setting where the day-to-day demands of a busy medical office cannot be replicated. Nonetheless, taking into account the various factors involved, one or more instructional objectives can be identified which would be possible for learners to achieve in a training program. For example:

1. Given descriptions of at least fifteen professional services, the learner will complete MSP billing procedures for each, using current MSP billing codes and forms. 100% accuracy on billing codes is required.
2. Given twenty MSP referral cards for a variety of specialists, and relevant patient data, the learner will complete cards legibly and accurately according to current MSP Payment Schedule Codes.

These two objectives identify the essence of the required skill: accurate, legible completion of specific billing forms and codes. Real working conditions such as time pressures in the context of performing other duties and the actual number of accounts can only be approximated or simulated in the training setting.

The refinement of the skill and the ability to perform other tasks concurrently are things which only time and experience on the job can provide. A learner who can perform this skill competently in the

context of the training environment offers an employable skill which, while not meeting all expectations of an employer, provides solid potential for further development. With experience and additional training, full job competence is reached. This important concept can be seen as follows:

Whenever it is possible or feasible to expect a learner to perform to job competence standards, an objective is developed to reflect this standard. The following objective, taken from the skill profile for drywall finishers, illustrates this point:

> Given a vertical or horizontal corner or a round or rectangular opening, the apprentice will cut the bead or trim cleanly, ensuring a snug fit in the opening.

In this case, a qualified journeyman would be expected to perform to virtually the same standard. The difference might be the speed with which he performs the task compared to an inexperienced apprentice.

The examples of objectives illustrate another important point about developing objectives from a skill profile chart. Not all skills are of the same kind or order of complexity. Enabling skills for some jobs may yield more than one objective, as in the case of the medical office example. Conversely, in other jobs such as the drywall finisher, the objective may reflect a combination of skills which must be learned together.

A Note About Terminology

In reading through education and training literature, including other publications on the subject of Dacum, one encounters a bewildering array of terms related to the word "objectives". Some of these are: learning objectives, performance objectives, terminal objectives, instructional objectives, enabling objectives, behavioural objectives,

and even the word "competencies". While each has a slightly different meaning according to the context in which it is used, all of these terms seem to be used more or less interchangeably.

The important thing to remember is that all these terms describe specific, measurable behaviours which learners are expected to demonstrate as a result of instruction. Dacum has often been associated with the term *performance objectives,* especially in the earlier days of its evolution when the notion of performance-based or competence-based training was less well-known and accepted. More recently, the cumbersome and redundant adjective "performance" has been dropped. Just as the terminology of objectives has a number of variations, so do the formats in which they appear. There is no standard or best way of writing objectives. The forms in which they appear are as varied as the individuals who write them.

The critical point is that objectives generated through the analysis of a skill profile are specific statements of learning outcomes. Objectives represent the highest possible standard for learners to achieve under optimal training conditions. In reality, circumstances vary from institution to institution, instructor to instructor, and learner to learner, which unquestionably affects the degree to which all of the desired outcomes of a program will be reached.

How instructors or trainers use objectives for instructional planning and design is described in the final booklet in this series, **From Objectives to Instruction.**

Skill Profile Charts and Course Outlines

See the first booklet in this series, **Introduction to Dacum**, for a list of skill profile charts and course outlines available from Publication Services Branch, Ministry of Education.

Suggestions for Further Reading

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